

CLAIM AMENDMENTS

1-2. (Canceled)

3. (Original) A starting apparatus of an internal combustion engine comprising:

a main air passage including an intake manifold for supplying air to each cylinder of the engine,

a bypass air passage provided in parallel to the main air passage and connected close to the intake port of each cylinder,

a bypass air control valve that is capable of controlling the incoming air quantity into the bypass air passage and opened at the time of start-up cranking,

a vaporization fuel supply means for supplying vaporized fuel to the bypass air passage, and

fuel injection valves that are installed near respective intake ports of cylinders of the engine or installed directly in respective cylinders, and inject the maximum fuel quantity of themselves available in the cranking period within a specified length of time after the beginning of start-up cranking, and then decreases the injected fuel quantity or stops injection in the rest of the cranking period after injecting the maximum fuel quantity.

4. (Canceled)

5. (Previously presented) A starting method of an internal combustion engine comprising: a main air passage including an intake manifold for supplying air to each cylinder of the engine, fuel injection valves that are installed near respective intake ports of cylinders of the engine or installed directly in respective cylinders, a bypass air passage provided in parallel to the main air passage and connected close to the intake port of each cylinder, a vaporization fuel supply means for supplying vaporized fuel to the bypass air passage, and a bypass air control valve capable of controlling the incoming air quantity into the bypass air passage,

wherein at the time of start-up cranking, the bypass air control valve is opened and vaporized fuel is supplied to the bypass air passage from the vaporization fuel supply means, and the fuel injection valves inject the maximum fuel quantity of themselves available in the cranking period within a specified time after the beginning of start-up cranking, and a time for decreasing the injected fuel quantity or stopping the injection is set in the rest of the cranking period after injecting the maximum fuel quantity.

6. (Previously presented) A control method of an internal combustion engine equipped with a starting apparatus comprising a main air passage including an intake manifold for supplying air to each cylinder of the engine, a bypass air passage provided in parallel to the main air passage and connected close to the intake port of each cylinder, a vaporization fuel supply means for supplying vaporized fuel to the bypass air passage, and a bypass air control valve

capable of controlling the incoming air quantity into the bypass air passage and in which main air control valves for the main air passage are provided near intake ports in respective pipes of the intake manifold, the control method comprising:

stopping the internal combustion engine automatically when specified idling stop permissible conditions are satisfied,

opening the bypass air control valve and actuating the start-up cranking when the specified engine start conditions are satisfied after the engine has stopped by satisfaction of the specified idling stop permissible conditions, and

supplying the vaporized fuel to the bypass air passage from the vaporization fuel supply means during start-up cranking.

7. (Previously presented) A control method of an internal combustion engine equipped with a starting apparatus comprising a main air passage including an intake manifold for supplying air to each cylinder of the engine, a bypass air passage provided in parallel to the main air passage and connected close to the intake port of each cylinder, a vaporization fuel supply means for supplying vaporized fuel to the bypass air passage, and a bypass air control valve capable of controlling the incoming air quantity into the bypass air passage, in which main air control valves for the main air passage are provided near intake ports in respective pipes of the intake manifold, and in which the vaporization fuel supply means comprises an auxiliary fuel injection valve and a heater for heating the fuel injected from the auxiliary fuel injection valve, the control

method comprising:

stopping the internal combustion engine automatically when the specified idling stop permissible conditions are satisfied,

energizing the heater for a specified time when the specified heater energization conditions are satisfied,

setting a non-energization period of the heater after energization of the heater for the specified time,

actuating start-up cranking when the specified engine start conditions are satisfied after the internal combustion engine has stopped by the satisfaction of the idling stop permissible conditions, and

supplying vaporized fuel to the bypass air passage from the vaporization fuel supply means during start-up cranking.

8. (Previously presented) An exhaust filtration apparatus installed in an exhaust pipe of an internal combustion engine equipped with the starting apparatus according to claim 3, wherein the exhaust filtration apparatus comprises a catalyst that holds no HC absorbent.

9. (Previously presented) An exhaust filtration apparatus installed in an exhaust pipe of an internal combustion engine equipped with the starting apparatus according to claim 3, wherein the exhaust filtration apparatus has one or more support containers on the exhaust pipe, and the catalyst supports filled into one of the support containers hold HC absorbents.

10. (Previously presented) An exhaust filtration apparatus installed in an exhaust pipe of an internal combustion engine equipped with the starting apparatus according to claim 3, wherein the exhaust filtration apparatus has plural support containers in the exhaust pipe, and the catalyst supports filled into any one of the support containers, that are located in the downstream of the exhaust pipe compared to the support container located in most upstream of the same, hold HC absorbents.